IN THE CLAIMS

Please amend the claims as follows:

1. (currently amended) A system for monitoring ingress noise in an HFC network having a hub, a domain manager located for monitoring the status of the HFC network, a fiber-optic line, and a node located along the fiber-optic line, the monitoring system comprising:

a BTP remotely located at or downstream from the node, the BTP including an ingress noise monitoring interface connected to the HFC network to detect ingress noise in the HFC network downstream from the interface and a modem in communication with the domain manager to transmit detected ingress noise information.

2. (currently amended) The system of claim 1, wherein the HFC network further includes a tap connected to the HFC network and located downstream from the node, and the ingress noise monitoring interface and modem are connected to the HFC network at the tap.

3. (currently amended) The system of claim 2, wherein the tap includes an upstream-facing directional coupler and a downstream-facing directional coupler, the ingress noise monitoring interface being connected to the downstream-

facing directional coupler and the modem being connected to the upstream-facing directional coupler.

4. (original) The system of claim 3, wherein the upstream-facing directional coupler is located downstream from the downstream-facing directional coupler.

5. (currently amended) An HFC network having a hub, a plurality of lines to transmit RF signals, and a system for monitoring ingress noise, comprising:

a tap having an RF line to transmit RF signals, an upstream-facing directional coupler located on the RF line, and a downstream-facing directional coupler located on the RF line; and

a BTP including an ingress noise monitoring interface connected to the downstream-facing directional coupler to detect ingress noise in the HFC network downstream from the ingress monitoring interface and a modem to communicate with the domain manager to transmit detected ingress noise information.

6. (original) The HFC network of claim 5, wherein the tap further includes an AC line for transmitting AC power, and the BTP receives AC power from the AC line.

7. (original) The HFC network of claim 6, wherein the AC power is transmitted from the AC line to the BTP by a twisted pair.

8. (original) The HFC network of claim 5, wherein the downstream-facing coupler is located upstream from the upstream-facing coupler.

9. (original) The HFC network of claim 5, wherein the BTP is located within a building and receives AC power from the building.

A4 cont.

10. (original) The HFC network of claim 5, further comprising an amplifier located on the HFC network immediately upstream from the tap.

11. (original) The HFC network of claim 5, wherein the plurality of lines comprise a fiber-optic line, a node coupled to the fiber-optic line, and at least one branch extending downstream from the node, and the tap is connected to the branch and located downstream from the node.

12. (currently amended) A system for monitoring ingress noise in an HFC network having a hub, a domain manager, and a plurality of lines to transmit RF signals, the system comprising:

a BTP adapted to be connected to the HFC network and located remotely with respect to the hub, the BTP including a downstream-facing directional coupler, an upstream-facing directional coupler, an ingress noise monitoring interface connected to the downstream-facing directional coupler to detect ingress noise in the network, and a modem connected to the upstream-facing directional coupler to communicate with the domain manager.

13. (original) The system of claim 12, wherein the BTP further comprises a power conversion unit for converting AC power to DC power.

14. (original) The system of claim 12, further comprising an amplifier located on the network immediately upstream from the BTP.

15. (currently amended) An HFC network having a system for monitoring ingress noise, comprising:

a node having a branch extending downstream therefrom, a fiber-optic line extending upstream therefrom, a downstream-facing directional coupler located on the branch, and an upstream-facing directional coupler; and

a BTP connected to the node and having an ingress noise monitoring interface and a modem, the modem being connected to the upstream-facing directional coupler, and the ingress monitoring interface being connected to the downstream facing directional coupler to monitor ingress in the branch.

16. (original) The HFC network of claim 15, wherein the upstream-facing directional coupler is located downstream from the downstream-facing directional coupler.

17. (currently amended) The HFC network of claim 15, wherein the node includes a plurality of branches and a downstream-facing directional coupler located on each of the branches, and the ingress monitoring interface is connected to each downstream-facing directional coupler to independently monitor ingress noise in each of the branches.

18. (currently amended) An HFC network having a system for monitoring ingress noise, comprising:

an amplifier, connected to an input at an upstream end of the amplifier, having at least one branch extending downstream therefrom and a downstream-facing directional coupler located on each of the branches, and an upstream-facing directional coupler; and

a BTP connected to the ~~node~~ amplifier and having an ingress noise monitoring interface and a modem, the modem being connected to the upstream-facing directional coupler, and the ingress noise monitoring interface being connected to the downstream-facing directional coupler to monitor ingress noise in the branch.

A4 cont.

19. (original) The HFC network of claim 18, wherein the upstream-facing directional coupler is located downstream from the downstream-facing directional coupler.

20. (currently amended) The HFC network of claim 19, wherein the amplifier includes a plurality of branches and a downstream-facing directional coupler located on each of the branches, and the ingress noise monitoring interface is connected to each downstream-facing directional coupler to independently monitor ingress noise in each of the branches.

Please add the following new claims:

21. (new) The system of claim 4, wherein at least two drop lines are connected to the upstream facing directional coupler by at least one splitter whereby the ingress noise monitoring interface receives an entirety of signals transmitted from the drop lines, and wherein at least one of the drop lines is connected to the modem.

22. (new) The system of claim 4, wherein the tap further includes a first diplexer and a second diplexer downstream from the first diplexer which respectively separate and recombine a branch entering the tap into a power line and an RF line, and wherein the upstream-facing and downstream-facing couplers are arranged on the RF line.

23. (new) The system of claim 22, wherein at least two drop lines are connected to the upstream facing directional coupler by at least one splitter whereby the ingress noise monitoring interface receives an entirety of signals transmitted from the drop lines, and wherein at least one of the drop lines is connected to the modem.

24. (new) The system of claim 22, wherein the modem is powered by a line connected to the power line.

25. (new) The network of claim 6, wherein the tap further includes a first diplexer and a second diplexer downstream from the first diplexer which respectively separate and recombine the AC line and the RF line.

26. (new) The network of claim 25, wherein at least two drop lines are connected to the upstream facing directional coupler by at least one splitter.

27. (new) The network of claim 8, wherein the tap further includes at least two drop lines connected to the upstream facing directional coupler by at least one splitter whereby the ingress monitoring interface receives an entirety of signals transmitted from the drop lines, and wherein at least one of the drop lines is connected to the modem.

28. (new) The network of claim 17, wherein the node further includes:

a fiber optic receiver connected to the fiber optic line, and connected to the plurality of branches by a downstream line, which converts optical signals traveling downstream from the fiber optic line into electrical signals, and

a fiber optic transmitter connected to the fiber optic line, and connected to the plurality of branches by an upstream line, which converts electrical signals traveling upstream from the branches into optical signals, wherein the plurality of downstream-facing directional couplers are located on the upstream line.

29. (new) The network of claim 28, wherein the node further includes a plurality of diplexers which connect the upstream and downstream lines on each of the branches, whereby upstream signals passing through each of the branches pass only through the upstream line and downstream signals passing through the downstream line through each of the branches exit the node without entering the upstream line.

a4 cont.

30. (new) The network of claim 28, wherein the node further includes an amplifier located on the downstream line on each of the branches.

31. (new) The network of claim 18, wherein the amplifier further includes:

a first diplexer connected to the input;

a forward amplifier connected to the first diplexer and the at least one branch by a downstream line; and

a reverse amplifier connected to the first diplexer and the at least one branch by an upstream line, wherein the upstream facing directional coupler is located on the upstream line.

32. (new) The network of claim 31, wherein the amplifier further includes a second diplexer for each of the branches which connects the upstream and downstream lines on each of the branches, whereby upstream signals passing through each of the branches pass only through the upstream line and downstream signals passing through the downstream line through each of the branches exit the amplifier without entering the upstream line.